

Fig-1

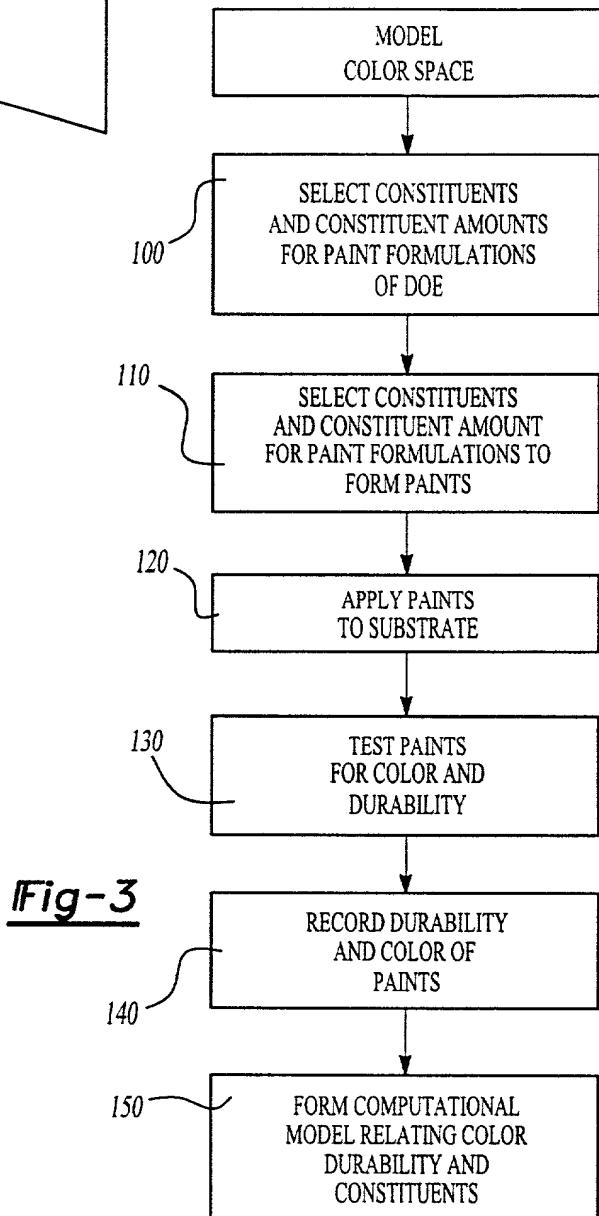


Fig-3

DESIGN FACTORS:

| FACTORS         | FUNCTION                      | LEVELS          |
|-----------------|-------------------------------|-----------------|
| PERYLENE        | BACKBONE OF SPACE             | 5 - 60%         |
| QUINDACRIDONE   | BLUE TINT                     | 0 - 40%         |
| RUSSET MICA     | PEARL AND BLUE                | 0 - 50%         |
| ALUMINUM        | LIGHTNESS/DARKNESS & HIDING   | 5% (CONSTANT)   |
| BLACK           | LIGHTNESS / DARKNESS & HIDING | 0.5% (CONSTANT) |
| TRANS RED OXIDE | LIGHTNESS / DARKNESS          | 2% (CONSTANT)   |

CHART A

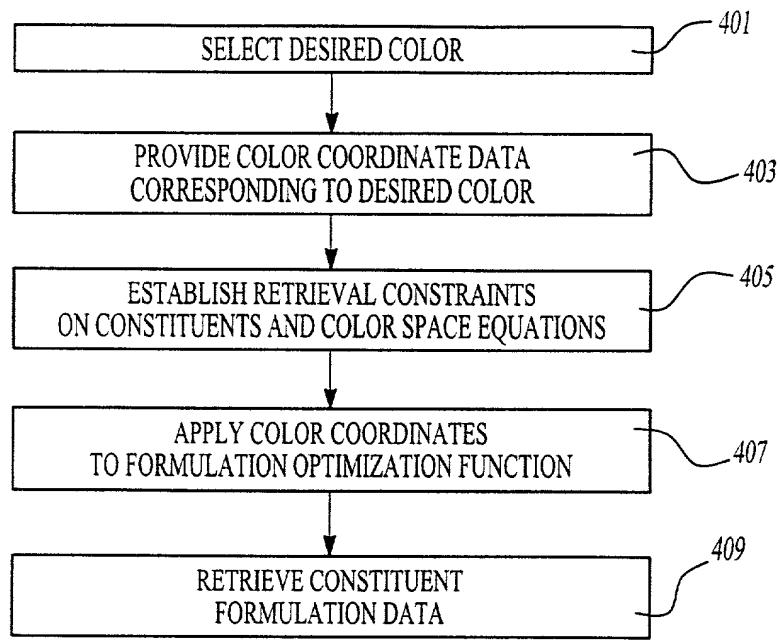
DESIGN LEVELS:

| FACTORS |       | RUN   | PERYLENE | BLUE RUSSET MICA | QUINACRIDONE | RED IRON OXIDE | BLACK | ALUMINUM |
|---------|-------|-------|----------|------------------|--------------|----------------|-------|----------|
| 1       | 60.00 | 32.00 | 0.00     | 2.50             | 0.50         | 5.00           |       |          |
| 2       | 60.00 | 0.00  | 32.00    | 2.50             | 0.50         | 5.00           |       |          |
| 3       | 5.00  | 50.00 | 37.00    | 2.50             | 0.50         | 5.00           |       |          |
| 4       | 42.00 | 50.00 | 0.00     | 2.50             | 0.50         | 5.00           |       |          |
| 5       | 52.00 | 0.00  | 40.00    | 2.50             | 0.50         | 5.00           |       |          |
| 6       | 5.00  | 47.00 | 40.00    | 2.50             | 0.50         | 5.00           |       |          |
| 7       | 37.33 | 29.83 | 24.83    | 2.50             | 0.50         | 5.00           |       |          |
| 8       | 56.00 | 0.00  | 36.00    | 2.50             | 0.50         | 5.00           |       |          |
| 9       | 51.00 | 41.00 | 0.00     | 2.50             | 0.50         | 5.00           |       |          |
| 10      | 5.00  | 48.50 | 38.50    | 2.50             | 0.50         | 5.00           |       |          |
| 11      | 60.00 | 16.00 | 16.00    | 2.50             | 0.50         | 5.00           |       |          |
| 12      | 23.50 | 50.00 | 18.50    | 2.50             | 0.50         | 5.00           |       |          |
| 13      | 28.50 | 23.50 | 40.00    | 2.50             | 0.50         | 5.00           |       |          |
| 14      | 48.67 | 30.92 | 12.42    | 2.50             | 0.50         | 5.00           |       |          |
| 15      | 48.67 | 14.92 | 28.42    | 2.50             | 0.50         | 5.00           |       |          |
| 16      | 21.17 | 39.92 | 30.92    | 2.50             | 0.50         | 5.00           |       |          |
| 17      | 39.67 | 39.92 | 12.42    | 2.50             | 0.50         | 5.00           |       |          |
| 18      | 44.67 | 14.92 | 32.42    | 2.50             | 0.50         | 5.00           |       |          |
| 19      | 21.17 | 38.42 | 32.42    | 2.50             | 0.50         | 5.00           |       |          |

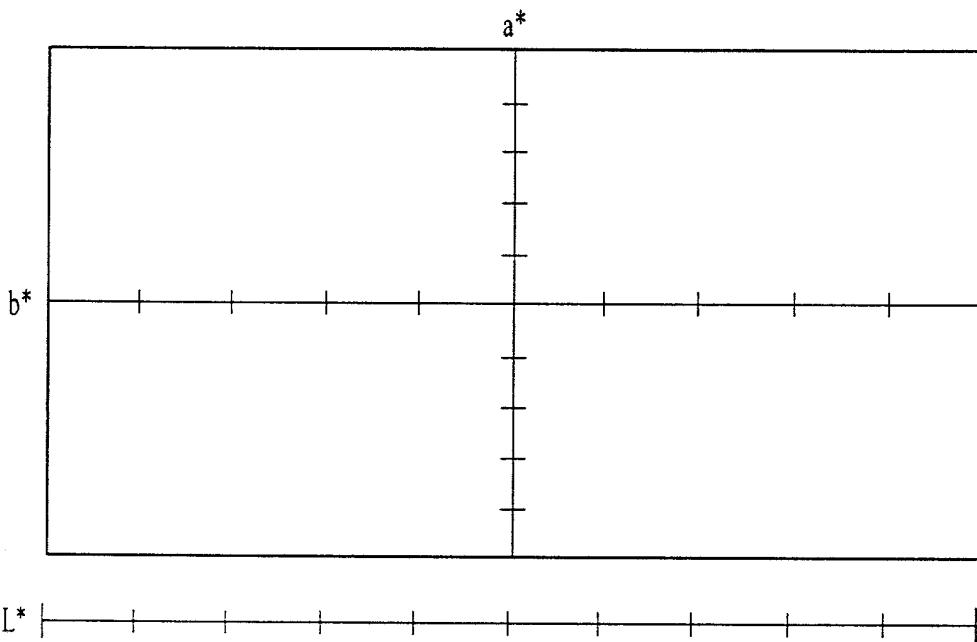
CHART B

Fig-2

Fig-5



**Fig-4**



**Fig-6**

|    | A                    | B       | C       | D       | E       | F       | G     | H | I | J | K | L |
|----|----------------------|---------|---------|---------|---------|---------|-------|---|---|---|---|---|
| 1  |                      |         | PIG 1   | PIG 2   | PIG 3   | PIG 4   | PIG 5 |   |   |   |   |   |
| 2  | FORMULATION DATA     | C1 25   | C2 25   | C3 25   | C4 25   | C5 25   |       |   |   |   |   |   |
| 3  | FORMULATION DATA     | C1 45   | C2 45   | C3 45   | C4 45   | C5 45   |       |   |   |   |   |   |
| 4  | FORMULATION DATA     | C1 75   | C2 75   | C3 75   | C4 75   | C5 75   |       |   |   |   |   |   |
| 5  |                      |         |         |         |         |         |       |   |   |   |   |   |
| 6  | UPPER PIP CONSTRAINT | (p1:P)u | (p2:P)u | (p3:P)u | (p4:P)u | (p5:P)u |       |   |   |   |   |   |
| 7  | LOWER PIP CONSTRAINT | (p1:P)l | (p2:P)l | (p3:P)l | (p4:P)l | (p5:P)l |       |   |   |   |   |   |
| 8  |                      |         |         |         |         |         |       |   |   |   |   |   |
| 9  | K                    | k1      | k2      | k3      | k4      | k5      |       |   |   |   |   |   |
| 10 | L*                   | K L25   |       |   |   |   |   |   |
| 11 | 25                   | a*      | K a25   | K a25   | K a25   | K a25   |       |   |   |   |   |   |
| 12 | b*                   | K b25   |       |   |   |   |   |   |
| 13 | L*                   | K L45   |       |   |   |   |   |   |
| 14 | 45                   | a*      | K a45   | K a45   | K a45   | K a45   |       |   |   |   |   |   |
| 15 | b*                   | K b45   |       |   |   |   |   |   |
| 16 | L*                   | K L75   |       |   |   |   |   |   |
| 17 | 75                   | a*      | K a75   | K a75   | K a75   | K a75   | K a75 |   |   |   |   |   |
| 18 | b*                   | K b75   | K b75 |   |   |   |   |   |

L \* a \* b \*  
CONSTRAINTS  
C/S MODEL  
EQUATIONS

<= SOLVER TARGET

Fig - 7

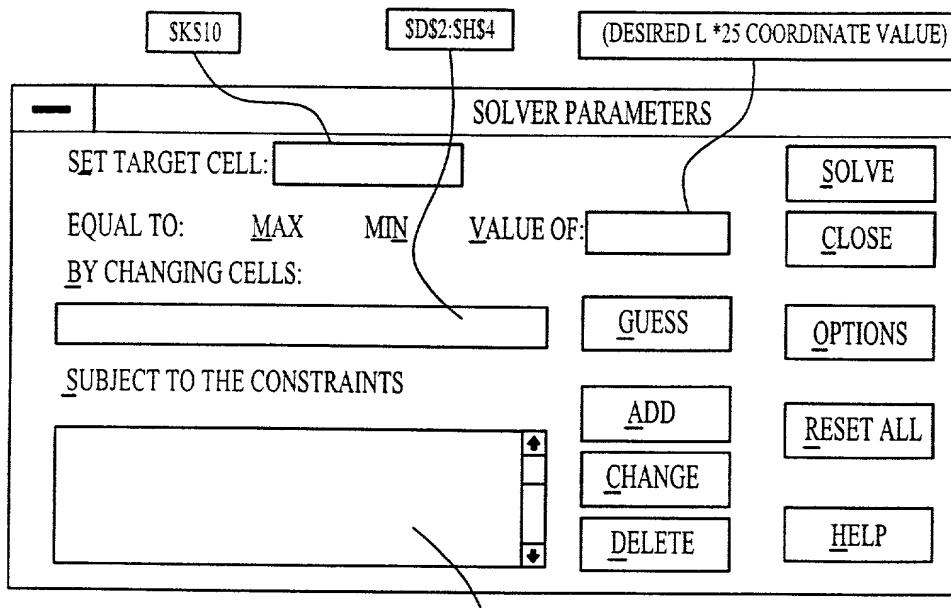


Fig-8

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$D$2:$D$4<=$D$6
$D$2:$D$4>=$D$7
&E$2:$E$4<=$E$6
$E$2:$E$4>=$E$7
$F$2:$F$4<=$F$6
$F$2:$F$4>=$F$7
$G$2:$G$4<=$G$6
$G$2:$G$4>=$G$7
$H$2:$H$4<=$H$6
$H$2:$H$4>=$H$7
$K$11=$J$11
$K$12=$J$12
$K$13=$J$13
$K$14=$J$14
$K$15=$J$15
$K$16=$J$16
$K$17=$J$17
$K$18=$J$18
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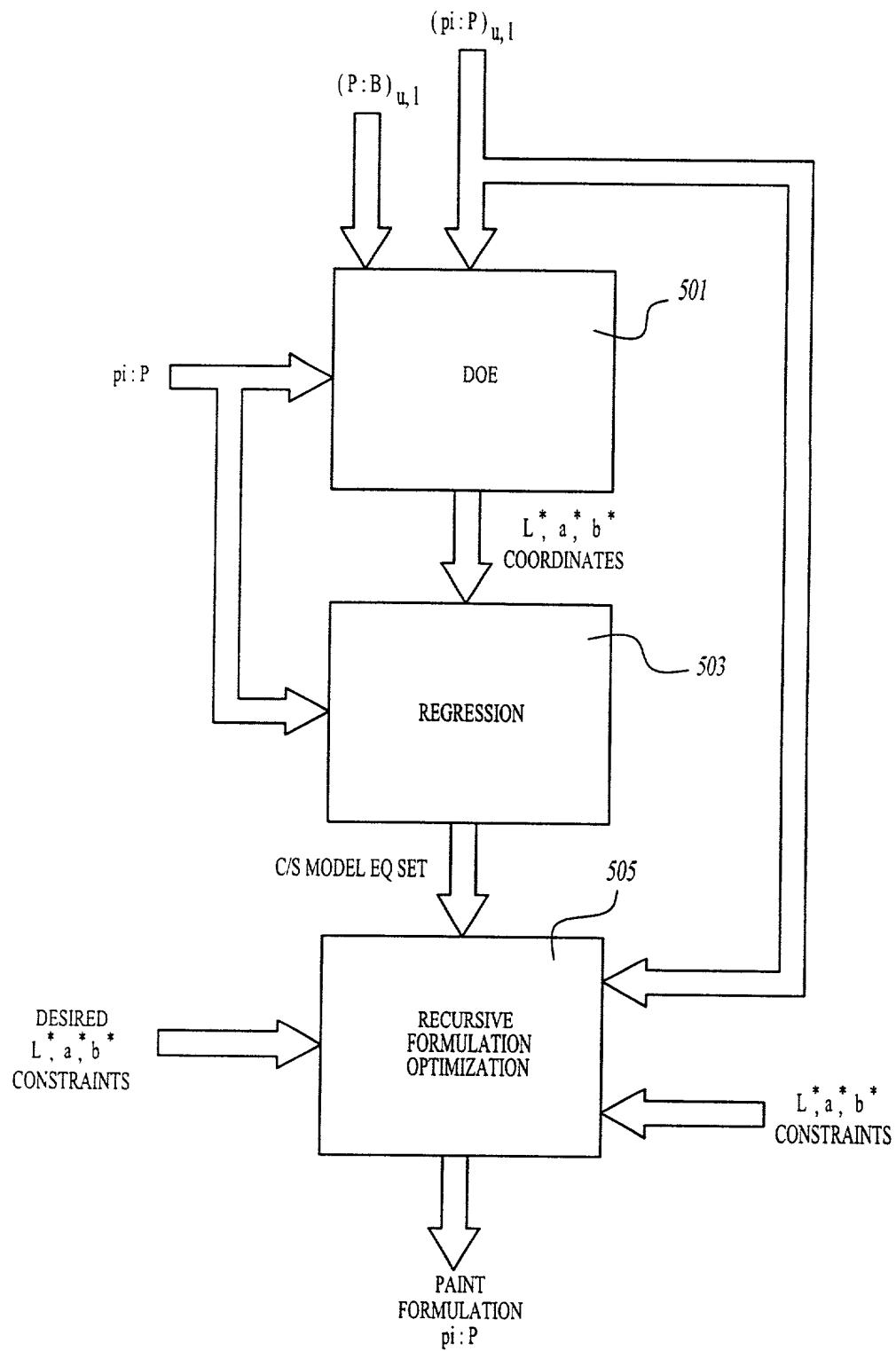


Fig-9